THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1) Apparatus for monitoring the status of a horse, wherein the apparatus includes:

   (a) a blanket having a first sensor, the first sensor being adapted to generate indicating data indicative of at least one health status indicator; and,

5   (b) a second sensor for generating position data indicative of the position of the horse, wherein, in use, a processing system is adapted to determine the health status of the horse in response to the indicating data and the position data.

2) Apparatus according to claim 1, wherein the health status indicator includes at
10   least one of the horse's:

   (a) heart rate;

   (b) blood pressure;

   (c) temperature; breathing rate;

   (d) blood flow rate; and,

15   (e) blood oxygenation levels.

3) Apparatus according to claim 1, wherein the second sensor is formed from a GPS sensor.

4) Apparatus according to claim 1, wherein the second sensor is adapted to be worn by a rider in use, and wherein the blanket further includes a connector for coupling
20   the second sensor to the blanket in use.

5) Apparatus according to claim 1, wherein the second sensor is provided in the blanket.

6) Apparatus according to claim 1, wherein the blanket further includes a power supply for coupling to the first and second sensors.

25 7) Apparatus according to claim 6, wherein the power supply includes at least one battery connected to a first part of an inductive coupling, and wherein, in use, the battery is recharged by connecting the first part of the inductive coupling to a second part of the inductive coupling, the second part being coupled to a power supply.

30 8) Apparatus according to claim 1, wherein the blanket further includes a communications device coupled to the first and second sensors to thereby transfer at least one of the indicating and position data to a remote computer system.

9) Apparatus according to claim 1, wherein the blanket further includes a store coupled to the first and second sensors to thereby store at least one of the indicating and position data to a remote computer system.

10) Apparatus according to claim 1, wherein the apparatus includes a processing system coupled to at least one of the first and second sensors for at least partially analysing at least one of the indicating and the position data.

11) Apparatus according to claim 10, wherein the processing system is coupled to a display, the display being adapted to provide an indication to the rider in accordance with at least one of the indicating and the position data.

12) Apparatus according to claim 1, wherein the first sensor is a heart rate sensor and wherein the blanket includes at least one electrode coupled to the heart rate sensor and positioned so as to be in contact with the horse in use.

13) Apparatus according to claim 12, wherein the blanket includes at least one wire embedded in the blanket material, the wire being adapted to connect the heart rate sensor to the at least one electrode.

14) Apparatus according to claim 13, wherein the blanket is a woven blanket and wherein the wire is integrated within the weave of the blanket.

15) Apparatus according to claim 1, wherein the first sensor is removably mounted to a pouch, the pouch including one or more connectors adapted to cooperate with corresponding detectors provided on the sensor, to thereby couple the sensor to the blanket.

16) Apparatus for monitoring the status of a horse, wherein the apparatus includes a processing system adapted to:

   (a) receive, from a first sensor provided in a horse blanket, indicating data indicative of at least one health status indicator;

   (b) receive, from a second sensor, position data indicative of the position of the horse; and,

   (c) determine the health status of the horse in accordance with the indicating data and the position data.

17) Apparatus according to claim 16, wherein the processing system is adapted to receive the position and indicating data from apparatus according to claim 1.

18) Apparatus according to claim 16, wherein the processing system includes a communications device for receiving the indicating and position data.

19) Apparatus according to claim 16, wherein the processing system determines the health status of the horse using a predetermined algorithm, the predetermined

algorithm defining a relationship between the at least one health status indicator and movement of the horse.

20) Apparatus according to claim 19, wherein the predetermined algorithm includes:

(a) determining at least a low heart rate during low speed exercise;

(b) determining a number of heart rates during high speed exercise;

(c) perform linear regression to calculate a linear regression line:

(d) calculate, using the linear regression line, the velocities at at least one of:

    (i)   heart rates of 200 beats per minute (V200); and,

    (ii)   HRmax (VHRmax); and,

(e) determine a fitness indicator in accordance with the calculated at least one velocity.

21) Apparatus according to claim 20, wherein the line regression line is determined in accordance with:

$$HR = a + bV,$$

where HR = heart rate;

        a = constant;

        b = constant; and,

        V = velocity.

22) Apparatus according to claim 20, wherein the method further includes deleting any outlier values

23) Apparatus according to claim 22, wherein the method includes deleting all outlier values by at least one of:

(a) deleting all results with a velocity of less than 40 kph;

(b) deleting all results during the period after exercise (from the time of occurrence of HRmax);

(c) deleting all data equal to at least one of:

    (i)   HRmax;

    (ii)   HRmax – 1;

    (iii)   HRmax – 2; and,

    (iv)   HRmax – 3;

(d) deleting all data where there has been an increase in velocity, but that increase was not accompanied by an increase in HR;

(e) deleting any data points which have a HR that is more than 10 beats per minute above the regression line at that speed, and recalculate the regression line if such outliers are deleted.

24) Apparatus according to claim 16, wherein the processing system is adapted to obtain indicating data and position data relating to a number of horses, the processing system being adapted to determine the health status of each of the number of horses.

25) Apparatus according to claim 16, the apparatus being used with the apparatus of claim 1.

26) Apparatus for monitoring the status of a horse, wherein the apparatus includes a processing system adapted to:

(a) receive, from a first sensor, indicating data indicative of the heart rate of the horse;

(b) receive, from a second sensor, position data indicative of the position of the horse;

(c) determine from the position data, movement data indicative of the rate of movement of the horse; and,

(d) determine the health status of the horse in accordance with a predetermined algorithm, the predetermined algorithm defining a relationship between the heart rate and the rate of movement of the horse.

27) Apparatus according to claim 26, wherein the predetermined algorithm includes:

(a) determining at least a low heart rate during low speed exercise;

(b) determining a number of heart rates during high speed exercise;

(c) perform linear regression to calculate a linear regression line:

(d) calculate, using the linear regression line, the velocities at at least one of:

    (i)   heart rates of 200 beats per minute (V200); and,

    (ii)   HRmax (VHRmax); and,

(e) determine a fitness indicator in accordance with the calculated at least one velocity.

28) Apparatus according to claim 27, the low heart rate being determined during trotting.

29) Apparatus according to claim 28, wherein the low heart rate is determined after the horse has been trotting for at least three minutes.

30) A system for monitoring the status of a horse, wherein the system includes:

(a) a blanket having a first sensor, the first sensor being adapted to generate indicating data indicative of at least one health status indicator; and,

(b) a second sensor for generating position data indicative of the position of the horse; and,

(c) a processing system, the processing system being responsive to the indicating and position data to thereby determine the health status of the horse.

31) A system according to claim 30, the system including apparatus according to any one of the claims 1 to 29.

32) A method of monitoring the health status of a horse, wherein the method includes:

(a) using a blanket having a first sensor to generate indicating data indicative of at least one health status indicator; and,

(b) using a second sensor to generate position data indicative of the position of the horse; and,

(c) determining the health status of the horse in response to the indicating data and the position data.

33) A method according to claim 32, wherein the method is performed using the apparatus of any one of the claims 1 to 29.

34) A method of monitoring the health status of a horse, wherein the method includes, in a horse blanket:

(a) generating indicating data using a first sensor, the indicating data being indicative of at least one health status indicator;

(b) obtaining position data from a second sensor, the position data being indicative of the position of the horse; and,

(c) providing the indicating data and the position data to a processing system, the processing system being responsive to the indicating data and the position data to determine the health status of the horse.

35) A method according to claim 34, wherein the method is performed using the apparatus of any one of the claims 1 to 29.

36) A method of monitoring the health status of a horse, wherein the method includes, in a processing system:

(a) receiving, from a first sensor provided in a horse blanket, indicating data indicative of at least one health status indicator;

(b) receiving, from a second sensor, position data indicative of the position of the horse; and,

(c) determining the health status of the horse in accordance with the indicating data and the position data.

37) A method according to claim 36, wherein the method is performed using the apparatus of any one of the claims 1 to 29.

38) Apparatus for monitoring the status of a horse, wherein the apparatus includes a processing system adapted to:

    (a) receive, from a first sensor, indicating data indicative of the heart rate of the horse;

    (b) receive, from a second sensor, position data indicative of the position of the horse;

    (c) determine from the position data, movement data indicative of the rate of movement of the horse; and,

    (d) determine the health status of the horse in accordance with a predetermined algorithm, the predetermined algorithm defining a relationship between the heart rate and the rate of movement of the horse.

39) A method according to claim 38, wherein the predetermined algorithm includes:

    (a) determining at least a low heart rate during low speed exercise;

    (b) determining a number of heart rates during high speed exercise;

    (c) perform linear regression to calculate a linear regression line:

    (d) calculate, using the linear regression line, the velocities at at least one of:

        (i)   heart rates of 200 beats per minute (V200); and,

        (ii)   HRmax (VHRmax); and,

    (e) determine a fitness indicator in accordance with the calculated at least one velocity.